REMARKS/ARGUMENTS

Status of the Claims

Claims 12-29 and 32-35 are pending in this application with claim 12 being the only independent claim. Claims 1-11 and 30 have been cancelled without prejudice or disclaimer. Independent claim 12 has been amended to recite features in previously presented claim 30, which are also shown in the drawings and disclosed in paragraphs [0023] and [0024] of the published application (i.e., US 2005/0233193). Claims 31 and 32 have been amended to depend from claim 12 in view of the cancellation of claim 30. New claims 34 and 35 have been added to recite additional features shown in Fig. 2 of the subject application.

Reconsideration of the subject application is hereby respectfully requested.

Finality of the Office Action

In paragraph 11 of the Office Action, it is stated that "THIS ACTION IS MADE FINAL." Applicants disagree.

Section § 706.07(b) of MPEP specifies that:

> it would not be proper to make final a first Office action in a continuing or substitute application >or an RCE< where that application contains material which was presented in the earlier application after final rejection or closing of prosecution but was denied entry because (A) new issues were raised that required further consideration and/or search, or (B) the issue of new matter was raised. (Emphasis added.)

In this case, a Request for Continued Examination was filed on February 13, 2009 to reopen prosecution in order for the Examiner to consider the Amendment in Response to Final Office Action filed January 12, 2009 ("Amendment"). As is indicated in the Advisory Action, such Amendment was denied entry for raising "new issues that would require further consideration and/or search." Pursuant to MPEP § 706.07(b), the finality of the Office Action is improper and should be withdrawn.

Overview of the Office Action

Claims 12-17, 20, 23, and 28-33 stand rejected under 35 U.S.C. §102(b) as anticipated by Vitale (USP 6,066,408).

Claims 18, 22, 24 and 26 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Vitale in view of Koschany (USP 2003/0012986).

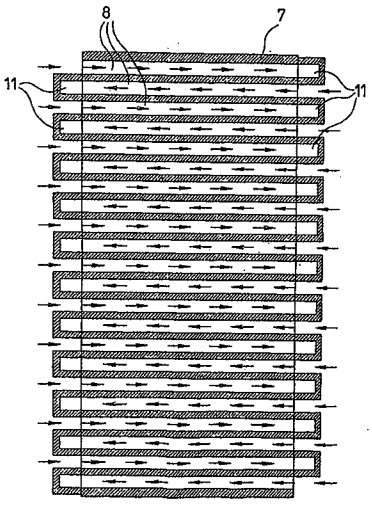
Claims 19 and 25 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Vitale in view of Shelekhin (USP 5,972,530).

Claims 21 and 27 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Vitale in view of Nelson (USP 6,689,500).

Summary of the Subject Matter Disclosed in the Specification

The following descriptive details are based on the specification. They are provided only for the convenience of the Examiner as part of the discussion presented herein, and are not intended to argue limitations which are unclaimed.

The present application relates to a fuel cell stack 1 having plural fuel cells 2 arranged above one another and clamped between end plates 3. Each fuel cell 2 has a membrane electrode assembly formed by a polymer electrolyte membrane 4, and an anode 5 and cathode 6 on the opposite sides of the membrane 4. *See* Fig. 1.



A bipolar plate 7 (see, Fig. 2 reproduced herein) is arranged between adjacent membrane electrode assemblies 4, 5, 6. The bipolar plate 7 contains parallel channels 8 extending transversely to the stack axis 9. Each of the parallel channels 8 is open towards both ends located on opposite sides of said fuel cell. The transverse channels 8 supply oxygen to the fuel cells 2 and remove

heat for purpose of cooling. The routing of the air within a fuel cell 2 runs in opposite directions in adjacent transverse channels 8 in each fuel cell 2.

Collector channels 11 are provided to connect the outflow sides of the ends of the transverse channels 8 of all fuel cells 2. A current flowing in opposite directions through adjacent channels 8 of the same fuel cell 2 can be created within the channels 8 via the collecting channels 11 when the flow is fed into the fuel cell stack 1 from both sides (*see,* also Fig. 2), resulting in a homogeneous temperature distribution with the fuel cell 2 or the stack 1.

Patentability of the Claimed Invention

Independent Claim 12

Independent claim 12 recites "each of said channels ... having two open ends on different sides of said fuel cell." In the example discussed above, the open ends of each channel 8 are located the left and right sides of the fuel cells 2 (see Fig. 2). As a result, oxygen can enter each fuel cell 2 from different sides, thereby routing air inside the fuel cell 2 in different directions to achieve uniform temperature distribution (see, also para. [0028] of the published application).

The above recited features of independent claim 12 are not taught by Vitale. Based on the detailed reasons submitted below, the coolant water inlets 606, 608 and outlets 614, 616 of Vitale's coolant flow channels 206, 206' (interpreted in the Office Action as the claimed channels) are located on the same side of the cooler-humidifier plate 202.

More specifically, the coolant flow channels 206, 206' in Vitale each have a serpentine configuration. As Fig. 6 of Vitale shows, each of the coolant flow channels 206, 206' has the corresponding coolant water inlet 606, 608 and outlet 614, 616 arranged on the same side of the cooler-humidifier plate 202 (i.e., the top side of the cooler-humidifier plate 202 shown in Fig. 6). Vitale does not teach that its coolant water inlets 606, 608 and outlets 614, 616 can be arranged

on different sides of the cooler-humidifier plate 202, as are the channel open ends recited in independent claim 12.

During the operation of Vitale's fuel cells 2, coolant water enters the fuel cells 2 from only one side. The channel portions further away from the coolant entrance side of Vitale however receive "heated" coolant water, rather than coolant water input directly from a coolant source. In addition, the coolant water must serpentine inside Vitale's coolant flow channels 206, 206' before exiting from the same entrance side of the fuel cells 2. Consequently, Vitale cannot achieve uniform temperature distribution, as does the claimed invention.

When rejecting claim 30, which has been incorporated in independent claim 12, the Office Action refers to the manifolds or holes 264, 268, 250, 262 shown in Fig. 2C of Vitale. Without admitting or disputing such interpretation made in the Office Action, applicants submit that such manifolds or holes 264, 268, 250, 262 extend in the direction of the stack axis and thus do not meet the channels recited in independent claim 12. Further, there is only a single channel in the embodiment of Fig. 2C. Applicants respectfully refer the Examiner to their detailed remarks in this regard submitted in the Amendment filed January 12, 2009.

In view of the above, Vitale does not teach "each of said channels ... having two open ends on different sides of said fuel cell," as explicitly recited in independent claim 12. Accordingly, withdrawal of the claim rejection of independent claim 12 is respectfully requested.

Dependent Claims 13-29 and 31-35

Claims 13-29 and 31-36 depend, directly or indirectly, from allowable independent claim 12 and are therefore allowable therewith.

In addition, dependent claims 13-29 and 31-35 include features which serve to even more clearly distinguish the claimed invention over the applied prior art. For example, new claim 34 recites that "said channels are rectilinear between said two open ends," while Vitale's flow

channels 206, 206' have a serpentine shape. New claim 35 requires "at least three channels" to thereby further distinguish Vitale's teaching of two flow channels 206, 206'.

Conclusion

Based on all of the above, it is respectfully submitted that the present application is now in proper condition for allowance. Prompt and favorable action to this effect and early passing of this application to issue are respectfully solicited.

Please charge our PTO Deposit Account No. 03-2412 in the amount $104 in payment for the addition of two new dependent claims.

Respectfully submitted,
COHEN PONTANI LIEBERMAN & PAVANE LLP

By /Alfred W. Froebrich/
Alfred W. Froebrich
Reg. No. 38,887
551 Fifth Avenue, Suite 1210
New York, New York 10176
(212) 687-2770

Dated: July 9, 2009